

Appl. No. : **09/771,673**
Filed : **January 29, 2001**

AMENDMENTS TO THE CLAIMS

Please add Claims 27-33.

Please amend Claim 15.

1-14. (Canceled).

15. (Currently Amended) An installation for etching a substrate by simultaneous exposure to two etching gases, the two etching gases forming a corrosive mixture, the installation, comprising:

an etching chamber for a substrate, the etching chamber having an opening;

a piping system coupled to the opening and providing for at least a first fluid feed and a second fluid feed, wherein the first fluid feed is connected at a source end to a source of a first etching gas, wherein the second fluid feed is connected at a source end to a source of a second etching gas, and wherein the first and second fluid feeds are configured to separately provide the first and second etching gases to the etching chamber via the piping system;

an auxiliary chamber positioned within the piping system and having an inlet and an outlet, wherein the inlet includes a first controllable shut-off valve and is in communication with the first fluid feed, wherein the outlet includes a second controllable shut-off valve and is in communication with the etching chamber, and wherein said first and second shut-off valves are configured to be open only one at a time; and

a third controllable shut-off valve positioned in the piping system in the second fluid feed, wherein the third shut-off valve and the second shut-off valve are configured to be open only one at a time,

wherein the auxiliary chamber and the piping system upstream of the auxiliary chamber are each formed of different materials.

16. (Previously Presented) The installation of Claim 15, wherein the piping system includes a bypass line for bypassing said auxiliary chamber.

17. (Previously Presented) The installation of Claim 15, wherein said etching chamber is connected to a vacuum pump.

18. (Previously Presented) The installation of Claim 15, wherein the piping system includes a valve coupled to the second fluid feed.

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19. (Previously Presented) The installation of Claim 15, wherein said etching chamber is of a plastic material and is configured to withstand a reduced pressure in said etching chamber.

20. (Previously Presented) The installation of Claim 19, wherein said plastic material comprises polyvinylidene fluoride.

21. (Previously Presented) The installation of Claim 15, wherein the first etching gas comprises hydrogen fluoride.

22. (Previously Presented) The installation of Claim 21, wherein the second etching gas is a catalyst for hydrogen fluoride etching.

23. (Previously Presented) The installation of Claim 22, wherein the second etching gas is selected from the group consisting of acetic acid, formic acid and water.

24. (Previously Presented) The installation of Claim 23, wherein the second etching gas comprises acetic acid.

25. (New) The installation of Claim 15, wherein the auxiliary chamber is formed of a material having higher corrosion resistance to a mixture of the first and the second etching gases than an other material forming the piping system.

26. (New) The installation of Claim 15, wherein the auxiliary chamber is formed of plastic.

27. (New) The installation of Claim 26, wherein the piping system upstream of the auxiliary chamber is formed of stainless steel.

28. (New) A system for etching a substrate, comprising:

an etching chamber for the substrate;

a piping system in fluid communication with the etching chamber and having at least a first fluid feed and a second fluid feed, wherein the first fluid feed is connected at a source end to a source of a first etching gas, wherein the second fluid feed is connected at a source end to a source of a second etching gas;

an auxiliary chamber positioned within the piping system and having an inlet and an outlet, wherein the inlet includes a first controllable shut-off valve and is in gas communication with the first fluid feed and the outlet includes a second controllable shut-off valve and is in gas communication with the etching chamber;

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a third controllable shut-off valve positioned in the piping system in the second fluid feed; and

means for preventing diffusion of the second etching gas through the inlet of the auxiliary chamber by opening the first and second shut-off valves only one at a time and by opening the second and the third shut-off valves only one at a time.

29. (New) The system of Claim 28, wherein a material forming a part of the piping system from the auxiliary chamber to the etching chamber has a higher resistance to corrosion by a mixture of the first and the second etching gases than an other material forming another part of the piping system upstream of the auxiliary chamber.

30. (New) The system of Claim 29, wherein the material forming a part of the piping system from the auxiliary chamber to the etching chamber is a plastic material.

31. (New) The system of Claim 30, wherein the other material forming another part of the piping system upstream of the auxiliary chamber a stainless steel material.

32. (New) The system of Claim 28, wherein the first etching gas comprises hydrogen fluoride.

33. (New) The system of Claim 32, wherein the second etching gas is selected from the group consisting of acetic acid, formic acid and water.